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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

September 8, 2015

Mr. Kevin Marek
NGB/A7AM, Shepperd Hall
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762-5157

Dear Mr. Marek:

The U.S. Environmental Protection Agency has reviewed the Oregon Air National Guard Draft Environmental Impact Statement for Proposed Establishment and Modification of Oregon Military Training Airspace. We are submitting comments in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. Thank you for inviting our participation in this NEPA process.

The Air National Guard proposes to modify, expand, and establish new military training airspace over coastal, north central, and eastern Oregon, and the Pacific Ocean, as well as small portions of northwestern Nevada and southwestern Washington. The purpose of these actions is to provide adequately sized and appropriately configured airspace within close proximity to Oregon ANG flying units to support advanced 21st century air-to-air tactical fighter technologies and training mission requirements. Proposed airspace actions include:

- Reconfiguration, vertical and horizontal expansion, and conversion of the W-570 Warning Area and Bass/Bass South Air Traffic Control Assigned Airspaces (ATCAAs) to the W-570 Warning Area over the Pacific Ocean;
- Vertical and horizontal expansion of the Eel Military Operations Area (MOA) Complex over portions of Clatsop, Tillamook, Yamhill, and Lincoln counties in coastal Oregon and over Pacific County in Washington;
- Vertical modification and horizontal expansion of the Juniper/Juniper Low/Hart MOA Complex in eastern Oregon over portions of Harney County in Oregon and Humboldt and Washoe counties in northwestern Nevada; and
- Establishment of the Redhawk MOA Complex, a new 6,500 square mile MOA/ATCAA above portions of seven counties in central Oregon including Sherman, Gilliam, Morrow, Grant, Wheeler, Jefferson, and Wasco counties (11,000 ft MSL to 51,000 MSL/FL 510).

Based on the information provided, we are rating the Draft EIS as EC-2, Environmental Concerns, Insufficient Information. An explanation of the EPA rating system is enclosed. Our environmental concerns and recommendations for additional information include the following:

- The proposed action would expand military training activities over most of the remaining wild and scenic lands and waters of Oregon and Northwestern Nevada. In light of broad interest and concern regarding this and other recent proposed military training and testing expansions, we believe the public would benefit from engagement in a more comprehensive, programmatic dialogue regarding

the nature and extent of military training and testing expansions throughout the Pacific Northwest, other Western states and Alaska.

- The proposed Juniper East Low expansion area (500 ft AGL to 11,000 MSL) would be over the Malheur National Wildlife Refuge, which would result in potentially serious noise impacts and high bird strike risk in one of the most important habitat areas for migratory birds and other wildlife in the Northern Great Basin.[1]
- The proposed action would increase disturbance and risk of fire from use of flares in prime habitat for greater sage grouse, of which hundreds of thousands of acres have been lost to fire in recent years.
- Use of chaff would occur throughout proposed expansion areas, resulting in dispersion of a non-biodegradable pollutant within the aquatic and terrestrial environments of all affected areas, including wilderness, wildlife refuges, wild and scenic rivers, parklands, areas of critical environmental concern, and open marine waters.
- We believe that the cumulative effects assessment does not sufficiently analyze and convey how the permanent establishment and expansion of the proposed military training airspaces would cumulatively affect specific communities in areas already affected by commercial, general, and military aircraft and other noise. In addition, it does not convey the cumulative effects of the proposed action together with multiple other stressors upon specific wildlife species and populations, such as greater sage grouse or other at risk species.
- The extent to which marine mammals, birds, and other marine life would potentially be affected by the proposed action within the W-570A warning area (ocean surface to 50,000 ft MSL) and the proposed lowering of W-570B and W-570D areas (1,000 ft MSL to 50,000 ft ML) is not addressed.
- The EIS needs to provide information regarding the feasibility of implementing the new special procedures and airspace restrictions that would need to be tracked and observed by military pilots, air traffic controllers, and commercial and general aviation pilots, including discussion of accuracy and margin of error.

Our enclosed detailed comments provide further discussion of these issues.

We appreciate the opportunity to provide comments and invite you to contact us with any questions you may have. I can be reached at (206) 553-1601 or via electronic mail at reichgott.christine@epa.gov, or you may contact Elaine Somers at (206) 553-2966 or via electronic mail at somers.elaine@epa.gov.

Sincerely,

Christine B. Reichgott

Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

Enclosures

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[1] http://www.fws.gov/refuge/Malheur/about.html. The Malheur NWR constitutes a small percentage of the Northern Great Basin's total acreage but is a very important source of wildlife habitat relative to other portions of the Northern Great Basin. The refuge represents a crucial stop along the Pacific Flyway and offers resting, breeding, and nesting habitat for hundreds of migratory birds and other wildlife. Many of the species migrating through or breeding there are priority species in national bird conservation plans.

U.S. Environmental Protection Agency
Detailed comments on the
Oregon Air National Guard Proposed Establishment and Modification
of Oregon Military Training Airspace Draft EIS

Context and scope of the analysis

The proposed expansion of Oregon Air National Guard military training airspace is one of many recent and current proposed air, land, and sea military training and testing expansions in the Pacific Northwest and Alaska. The Pacific Northwest expansions involve Pacific coastal areas of Washington, Oregon, (and California), inland national forests, shrub steppe habitat, wilderness and other wildlands, national parkland, and wildlife refuges.[2] These areas encompass highly sensitive, biologically diverse, critically important habitats for native terrestrial, aquatic, and marine species. The training and testing expansions also affect communities that, together with these high value public lands and recreation areas, are integral to the quality of life in the Pacific Northwest.

The Draft EIS states that the need to provide realistic training and testing of advanced technological warfare systems has given rise to these expansions, which is a change from past training operations that were mainly on-base and in nearby designated air space. The effects of these military training and testing expansions are being analyzed in various separate NEPA documents, some of which are semi-programmatic in nature, but none of which provide a complete picture of proposed actions on a regional scale. Recent public comment period extensions for various NEPA analyses[3] indicate that these expansion activities are of interest to many. To improve communication and disclosure, it would be beneficial to give an overview of the broader context and extent of these changes and to conduct outreach that ensures meaningful participation for the affected public.

Recommendation: We recommend that this and other NEPA documents discuss the programmatic origin, rationale, geographic extent and general effects of these expansions, explain how the specific proposed action and NEPA analysis fit within the broader program, and discuss any reasonably foreseeable or potential future actions and their anticipated effects.

Juniper/Hart MOA Complex; Juniper East Low expansion area

Our greatest concerns involve the proposed Juniper East Low MOA expansion (500 ft AGL to 11,000 MSL). This MOA would be over the Malheur National Wildlife Refuge, which would result in potentially serious noise impacts and high bird strike risk in one of the most important habitat areas for

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[2] Expansion activities include but are not limited to: US Navy NW Training and Testing (SEIS/OEIS); Oregon ANG Training Airspace Establishment and Modification; Expansion of EA-18G Growler Airfield Operations and fleet at NAS Whidbey Island; PNW Electronic Warfare Range, Olympic Peninsula; Northwest Aviation Operations Off-base Helicopter Training Areas for JBLM, WA; Land-Water Interface Surface Pier Extension at Naval Base Kitsap Bangor; Explosives Handling Wharf; Naval Weapons Training Facility Boardman; Coast Guard Transit Protection System Pier and Support Facilities; Overwater US Army/Navy and National Guard helicopter exercises in the Strait of Juan de Fuca and along the Pacific Coast; US Army Noise Assessment for Test Launches of the Reduced Range Practice Rocket at JBLM, WA. In Alaska: Gulf of Alaska Navy Training Activities.

[3] Examples include: PNW Electronic Warfare Range EA; Establishment of Helicopter Training Areas EA Scoping; EA-18G Growler Expansion EIS.

migratory birds and other wildlife in the Northern Great Basin.[4] We note that the recorded bird-strike occurrences are substantially higher for the 173 Fighter Wing (Klamath Falls) than for the 142 Fighter Wing (Portland): 61 vs. 28 incidents.[5] It is likely that the higher incidence of bird-strike is due to (1) the 173 FW predominant use of the Juniper Low MOA, (2) use of the Juniper Low MOA at 500 AGL, and (2) the proximity to Malheur NWR and its importance in the Pacific Flyway. With the proposed Juniper East Low MOA expansion, it would be reasonable to expect that the bird-strike incidence would substantially increase. This is because the proposed Juniper East Low MOA would directly affect the Malheur NWR airspace between 500 AGL and 11,000 MSL. Bird migrations occur within the full range of these elevations.[6]

The noise impacts from low overflights would also be the most intense of any proposed expansion area at Lmax 116 dB, which constitutes a substantial impact in an area that is managed as a refuge for birds and other wildlife. The DEIS discusses physical effects of noise on livestock, but not on birds or other wildlife, particularly with respect to potential hearing loss, and disturbance during feeding, resting, nesting and rearing of young potentially leading to predation and other lethal and sub-lethal effects from single and repeated events. These impacts would be new to the Refuge, and would occur somewhat randomly in time and place but consistently and indefinitely into the future.[7]

Use of chaff. In addition to bird strikes and loud noise events, the use of chaff and flares are of concern within the Juniper/Hart MOA complex, particularly within the proposed Juniper East Low expansion area. Chaff,[8] which consists of small, extremely fine fibers of aluminum-coated glass that disperse widely when ejected from aircraft, is most confined or concentrated in distribution when ejected from a low-altitude release in calm conditions.[9] Low altitude flights currently occur in W-570 and in Juniper Low MOA. They would be expanded to Juniper East Low under the proposed action.[10] The USAF study (1997) referenced in the DEIS states that "adverse effects to sensitive aquatic organisms may be possible in certain small confined water bodies. Freshwater aquatic environments are potentially more sensitive to chemicals released from chaff than terrestrial environments because (1) dissolution of materials occurs faster in water than on land; (2) chemicals are more mobile and more available to organisms; and (3) the thresholds of toxicity tend to be lower for sensitive aquatic species." The Malheur NWR includes Malheur, Hart, and Mud Lakes, used by waterfowl, shorebirds, passerines, raptors, and other wildlife, which would be subject to chaff deposition, dissolution, and decomposition.

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[4] http://www.fws.gov/refuge/Malheur/about.html. The Malheur NWR constitutes a small percentage of the Northern Great Basin's total acreage but is a very important source of wildlife habitat relative to other portions of the Northern Great Basin. The refuge represents a crucial stop along the Pacific Flyway and offers resting, breeding, and nesting habitat for hundreds of migratory birds and other wildlife. Many of the species migrating through or breeding there are priority species in national bird conservation plans.

[5] Draft EIS, p. 3-109

[6] Draft EIS, p. 3-106

[7] Draft EIS, p. 5-3

[8] The principal components of chaff are aluminum, silica glass fibers (silica dioxide, aluminum oxide, calcium+magnesium oxide, boron oxide, sodium+potassium oxide, iron oxide), stearic and palmitic acids. It also contains numerous trace metals and elements (USAF 1997).

[9] Draft EIS, p. 3-114

[10] However, chaff and flares would be used in all MOAs and proposed expansion areas.

The most recent study on the environmental effects of chaff[11] focuses on the toxicological effects, but states "there is no data on the re-suspension of chaff fibers and little is known about the breakdown of chaff under relevant conditions." It lists seven questions that still need to be addressed regarding deposition, resuspension, emissions, concentrations, and inhalation risks of chaff. These questions are particularly relevant to the Juniper/Hart MOA Complex and its proposed expansion areas, which are arid, open, and windy.

While the risks are not fully studied, based on lessons learned from the legacies of lead, selenium, metals, and other pollutants affecting wildlife refuges, and the known inhalation hazards of friable asbestos, fiberglass insulation, and similar substances, broadcast dispersal of chaff in pristine wilderness areas, such as Malheur NWR, appears risky and probably unwise. We recommend avoiding the use of chaff for training activities and replacing it with a biodegradable substitute.

Use of flares. Even though Oregon ANG has set a conservative floor of 5,000 ft AGL for flare use, we remain concerned about the potential for fire, particularly in arid environments. The Oregon Greater Sage Grouse Final EIS states, "Wildfire has been identified as one of the primary factors linked to loss of sagebrush-steppe habitat and corresponding population declines of greater sage grouse (Connelly and Braun 1997; Miller and Eddleman 2001). While fire is a naturally occurring disturbance in the sagebrush steppe, the incursion of nonnative annual grasses has facilitated an increase in mean fire frequency that can preclude the opportunity for sagebrush to become re-established...Within the Great Basin, the first five priority areas of conservation were singled out for the initial round of assessments because fire was identified as a primary threat to greater sage grouse habitat and the first phase of these assessments were completed in March of 2015." This primary concern regarding fire from use of flares would apply to all sagebrush steppe habitat in Oregon and northwestern Nevada affected by the Oregon ANG proposed action.

Recommendations:

- Because of the potential level of impacts, we believe Alternative D (no expansion of Juniper/Hart MOA Complex) or removal of the Juniper East Low expansion area from the proposed action would best protect resources in that area.
- Avoid use of flares in the Juniper/Hart MOA and its associated expansion areas, and in any airspace over lands where the fire danger is rated above moderate (i.e., rated as high, very high, or extreme).
- Avoid the use of chaff, particularly in any low airspace MOAs, and replace it with a biodegradable alternative.

Special procedures

More information is needed to clarify how Oregon ANG pilots will successfully implement the many flight restrictions in time and space that are detailed in the Special Procedures. These include:

- avoiding sage grouse leks and core areas during the breeding season (March 1 to May 31);
- avoiding overflights at low altitudes to the maximum extent practicable consistent with AFI 13-201 and Air Education and Training Command Supplement 12-201 (e.g, National Marine

[11] Farrell and Siciliano, 2005, Environmental Effects of Radio Frequency Chaff Released during Military Training Exercises: A Review of the Literature.

Sanctuaries, National Wildlife Refuges, farms and ranches, nesting sites, towns, recreation areas, etc.), and avoiding noise sensitive locations[12] beneath the proposed Juniper East Low MOA;

- avoidance of the seasonal buffer areas from surface to 1,000 ft AGL with a radius of 0.25 mile from mapped bald and golden eagle nests from January 1 to August 15;
- use of flares no lower than 5,000 ft AGL;
- no use of flares in extreme fire danger areas; emergency fuel dumps allowed only above 10,000 ft AGL and over unpopulated areas;
- avoiding wind farms;
- following bird-strike (BASH) plans; and
- relying upon visual avoidance of other aircraft, birds, and other hazards while flying 4th generation advanced technology aircraft at subsonic speeds of 20 nautical miles per minute and in W-570 at supersonic speeds as needed for training activities.

Recommendation: The EIS should discuss the feasibility and success rate of implementing all of these procedures, and any mechanisms to ensure or facilitate implementation. Similarly, the EIS should discuss how Air Traffic Controllers would feasibly implement and track the additional complexities posed by the proposed action.

Cumulative effects

The cumulative effects analyses are brief discussions of airspace management, noise, land use and visual resources, biological resources, and safety. These discussions tend to focus upon impacts that occur within airspace only and do not convey the full array of stressors that affect populations of concern. For example, a cumulative effects assessment for biological resources could focus upon greater sage grouse. The analysis should be conducted within a context that acknowledges and accounts for past, present, and reasonably foreseeable human disturbance, habitat loss, alterations, degradation, and a steadily increasing number and type of disturbances and mortality sources[13], including the proposed action.

Recommendation: Focus cumulative effects assessments on specific resources of concern, as discussed above.

Tribal consultation

While the Draft EIS states that as of March 2014, no concerns had been raised by any tribes[14], we have heard concerns expressed by at least one tribe (Coquille) that satisfactory consultation has not yet taken place regarding the proposed action.

Recommendation: We recommend that steps for government-to-government consultation be taken to ensure that potentially affected tribes are meaningfully engaged.

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[12] These noise sensitive locations are not identified in the Draft EIS.

[13] For example, consider impacts from climate change, habitat loss and fragmentation from fire and increased fire risk from widespread invasive grasses, collisions with wind turbines, wildlife-vehicular collisions, aircraft bird strikes, chemical poisonings, hazardous materials spills/releases and waste pits; increased predation due to transmission lines and other man-made structures that provide perches for predators.

[14] Draft EIS, p. 3-87

U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.